

Title (en)
LIGHTING APPARATUS, ANTENNA UNIT FOR LIGHTING APPARATUS, COMMUNICATION SYSTEM AND TRAFFIC SIGNAL CONTROL APPARATUS

Title (de)
BELEUCHTUNGSVORRICHTUNG, ANTENNENEINHEIT FÜR DIE BELEUCHTUNGSVORRICHTUNG, KOMMUNIKATIONSSYSTEM UND VORRICHTUNG ZUR STEUERUNG VON VERKEHRSSIGNALEN

Title (fr)
APPAREIL D'ÉCLAIRAGE, UNITÉ D'ANTENNE POUR APPAREIL D'ÉCLAIRAGE, SYSTÈME DE COMMUNICATION ET APPAREIL DE COMMANDE DE SIGNAL DE TRAFIC

Publication
EP 2169647 A1 20100331 (EN)

Application
EP 08790754 A 20080630

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• JP 2008061841 W 20080630
• JP 2007186082 A 20070717
• JP 2007186019 A 20070717
• JP 2007186046 A 20070717
• JP 2007191044 A 20070723
• JP 2007334830 A 20071226
• JP 2007338429 A 20071228

Abstract (en)
A lamp apparatus 1 includes an optical unit 2 and a patch antenna 4. The optical unit 2 includes an LED 7 and a substrate 8 having the LED 7 mounted at the front face, and a cover member 9 having visible-light transmittance, spread over the LED 7 at the front. In this optical unit 2 are stored the patch antenna 4 including a patch element 11 and a ground element 12 located at the rear of the patch element 11.

IPC 8 full level
G08G 1/095 (2006.01); **E01F 9/615** (2016.01); **H01Q 1/44** (2006.01); **H01Q 9/42** (2006.01)

CPC (source: EP US)
F21V 5/04 (2013.01 - EP US); **F21V 23/045** (2013.01 - EP US); **G08G 1/095** (2013.01 - EP US); **H01Q 1/44** (2013.01 - EP US); **H01Q 9/0407** (2013.01 - EP); **H01Q 9/42** (2013.01 - US); **F21W 2111/02** (2013.01 - EP US); **F21Y 2115/10** (2016.07 - EP US)

Cited by
CN103503236A; BE1025517B1; IT201900017960A1; KR20130070476A; AU2014217640B2; GB2510885A; GB2510885B; EP2768074A1; BE1026102B1; KR20190091361A; EP3550666A4; US8786516B2; US8872711B2; US8665161B2; AU2019233733B2; AU2018326447B2; EP4317775A3; WO2012154389A3; WO2012154391A3; WO2012154390A3; WO2021064654A1; WO2014125302A1; TWI565135B; US11215340B2; US11215351B2; WO2019043045A1; WO2019175437A1

Designated contracting state (EPC)
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Designated extension state (EPC)
AL BA MK RS

DOCDB simple family (publication)
EP 2169647 A1 20100331; **EP 2169647 A4 20101103**; **EP 2169647 B1 20120905**; CN 101743573 A 20100616; CN 101743573 B 20140514; EP 2315190 A1 20110427; EP 2315190 B1 20121017; US 2010188301 A1 20100729; US 8310404 B2 20121113; WO 2009011218 A1 20090122

DOCDB simple family (application)
EP 08790754 A 20080630; CN 200880024933 A 20080630; EP 11152789 A 20080630; JP 2008061841 W 20080630; US 66941708 A 20080630